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Upgrading to Infor EAM v11 & Paperless Mobile Services

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Upgrading to Infor EAM v11 & Paperless Mobile Services

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Agenda

- Introduction
- Overview
- EAM Database - Prep-Work, Upgrade, Post-Work, Tips
- EAM Extended & Web Services - Installation, Configuration, Tips
- EAM Cognos - Installation, Configuration, Tips
- EAM Mobile & iPad/iPhone - Installation, Configuration, Tips
- EAM Mobile & Checklist For Paperless Work Orders
- Q&A
 - Bonus Slides- Infor EAM v11 Screens GUI Overview



Introduction



Introduction: Speaker

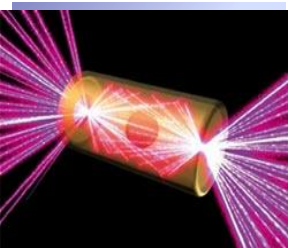
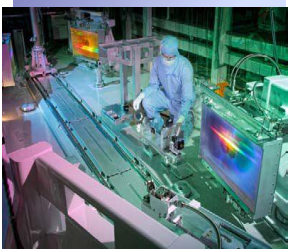
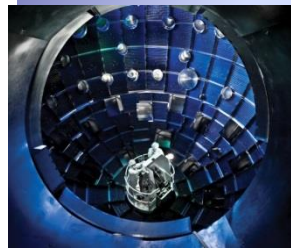


- Kevin White
 - Degrees
 - B.S. Computer Science/Math Science, Certificate Computer Simulation, M.S. Computer Science
 - Certifications
 - ITIL V3, Oracle Master, EDI, HCI
 - Work
 - Over 25 years of engineering experience developing and delivering applications including general and executive management.
 - Infor EAM (Datastream 7i)
 - Over 12+ years experience with product
 - Infor EAM User Advisory Board (UAB) for the last 7 years
 - Chairman for 4 years, Vice-Chairman 3 years



Introduction: who is LLNL

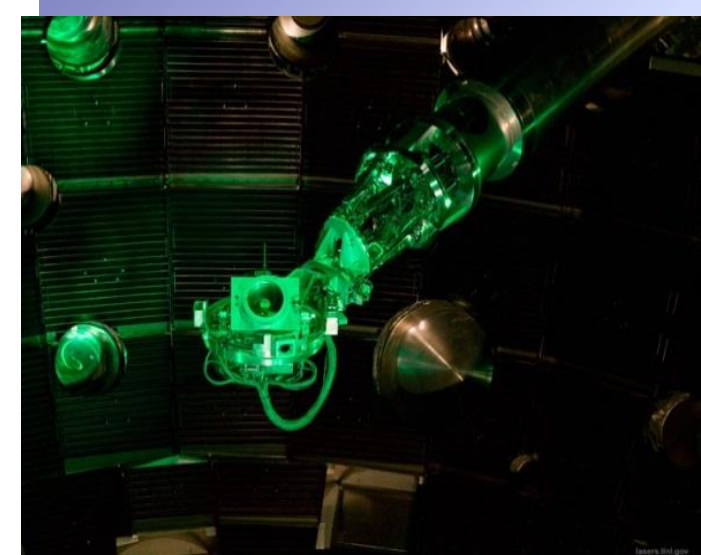
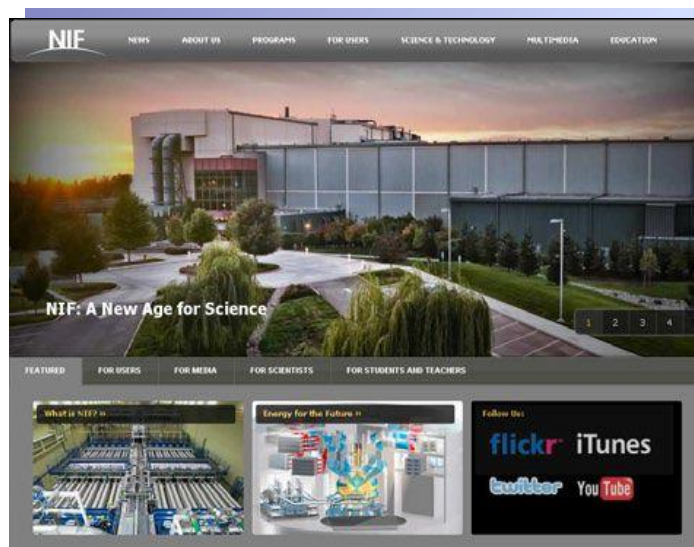
- Lawrence Livermore National Laboratory (LLNL) has a mission of strengthening the United States' security through development and application of world-class science and technology to:
 - Enhance the nation's defense
 - Reduce the global threat from terrorism and weapons of mass destruction
 - Respond with vision, quality, integrity and technical excellence to scientific issues of national importance
- A U.S. Department of Energy National Laboratory
- Located in Livermore, California
- Founded in 1952
- Employs ~7,000 People





Introduction: what is NIF

- The National Ignition Facility (NIF) is a stadium sized structure that contains 192-beam, 1.8-Megajoule, 500-Terawatt, ultraviolet laser
- Is the world's largest & most energetic laser experimental system
- Provides a scientific center to study inertial confinement fusion (ICF) and matter at extreme energy densities and pressures.





Introduction: NIF's missions

- National Security
 - How can we ensure the nation's security without nuclear weapons testing?
- Energy for the Future
 - Where will the world's energy come from when all the fossil fuels are gone? And how can we produce the energy we need without causing catastrophic climate change?
- Understanding the Universe
 - How did the universe come into being, and how did the stars and planets form? What happens in supernovas and black holes?





Introduction: Infor EAM and NIF

- The NIF System Maintenance and Reliability Tracking (SMaRT) System supports the predictive/preventive, corrective, reactive, and calibration maintenance for NIF operations, NIF Mission Support, and NIF Factories
- SMaRT (implementation of Infor EAM) manages the work flows and efforts for over 90,000 equipment items requiring maintenance across NIF's 500+ subsystems and 39 facilities that includes 1000+ preventive and calibration schedules managing over 8K/40K PM/MEC and 6K/8K RM/MEC work orders a year
- SMaRT ensures that Configured Items (CI's) and safety systems related equipment are under configuration control to ensure work is performed on time and with the latest released procedures to keep the National Ignition Facility running in safe operations and ready for shot experiments



Overview



Overview: history of last 4 upgrades

- v11 allow 3 months (1 month for each environment)
 - NIF went from v10.1.2 to v11 in 20 weeks (DEV -> QA -> PRD)
 - v11 GUI & Mobile issues caused delays, patch 201405 resolved enough major items to go live
 - Production Extended downtime 2 hours,
 - Product Advance Mobile downtime 3 hours
 - NIF went from v8.5 to v10.1.2 in 4 weeks (DEV -> QA -> PRD)
 - Production Extended downtime 3 hours (v85->10.1 40min / v10.1->10.1.1 100min / v10.1.1 -> v10.1.2 30min),
 - Production Advance Mobile downtime 5 hours
 - NIF went from v8.3 to v8.5 in 8 weeks (DEV -> QA -> PRD)
 - Infor EAM infrastructure changes and performance issues caused delays
 - Production Extended downtime 8 hours (v83->v84 60min / v84->v85 60min)
 - NIF went from v7.8 to v8.3 in 4 weeks (DEV -> QA -> PRD)
 - Production Extended downtime 12 hours (major upgrade – allow some time)



Overview: NIF's custom work / DB size

- Extended 400+ Business rules spread across
 - 68 Flex Statements on Infor tables
 - 25 Custom GRID List Views & Tabs
 - 15 Custom triggers on Infor tables
 - 10 Custom tables / 44 custom Views
 - 7 DB links across 12 schemas
 - 3 Custom packages (85 functions/procedures)
- Cognos Reports – just the Print Work Order Report
- BlueDot Advance Mobile
 - formerly known as Infor EAM Advance Mobile

Table	Num Rows
R5AUDVALUES	4,019,610
R5EVENTOBJECTS	1,085,460
R5PAGELAYOUT	1,015,780
R5PAGELAYOUT_VB	868,290
R5DESCRIPTIONS	629,950
R5PROPERTYVALUES	622,170
R5EVTSYSTEMS	615,437
R5CUSTOMERREQUESTHISTORY	415,600
R5ADDETAILS	367,540
R5ALLTEXTS	348,550
R5EVENTS	336,135
R5PARTS	315,301
R5EVENTS_LASTSTATUSUPDATE	228,042
R5UNAVAILABLEGRIDFIELDS	219,940
R5ACTIVITIES	169,995
R5UNAVAILABLEGRIDFIELDS_VB	149,230
R5DOCENTITIES	141,110
R5EVENTSLRFDDETAILS	114,250
R5BOOKEDHOURS	104,600
R5EVENTPOINTS	93,281
R5BOILERTEXTS	84,080
R5KPIHISTORY	77,760
R5QUERYFIELD	71,130
R5OBJECTS	66,830
R5STRUCTURES	66,510
R5FINDPROFILE	66,370
R5GRIDFIELD	58,140
R5PAGECACHE	42,675
R5PULLDOWNMENU	42,250
R5DETAILAUDIT	38,190
R5DOCUMENTS	35,120
R5DEFAULTPAGELAYOUT	33,890
R5MENUS	30,830
R5DEFAULTPAGELAYOUT_VB	27,840
R5PERMISSIONS	26,500
R5FILTERTABCOLUMNS	26,350

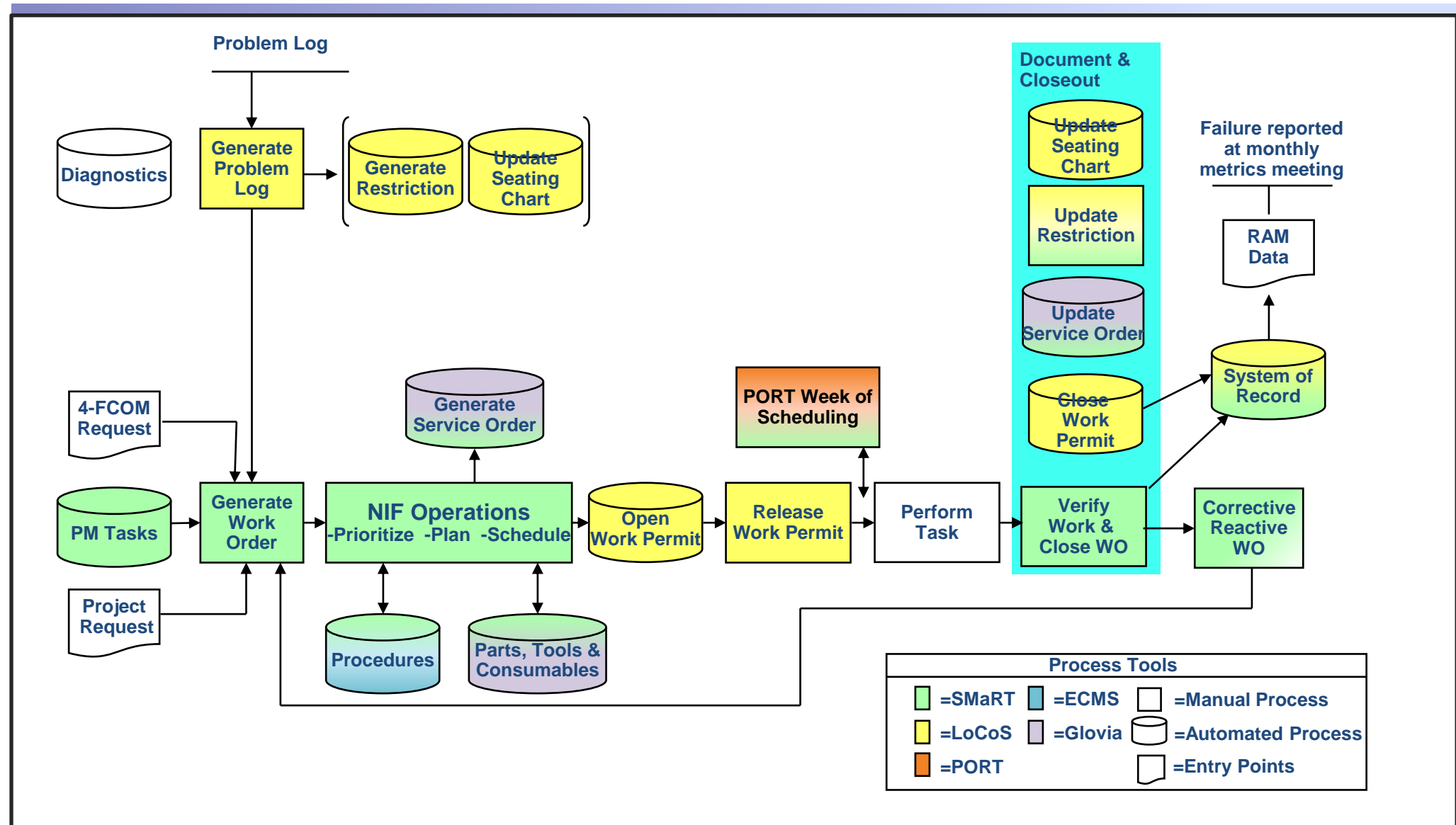


Overview: know your business





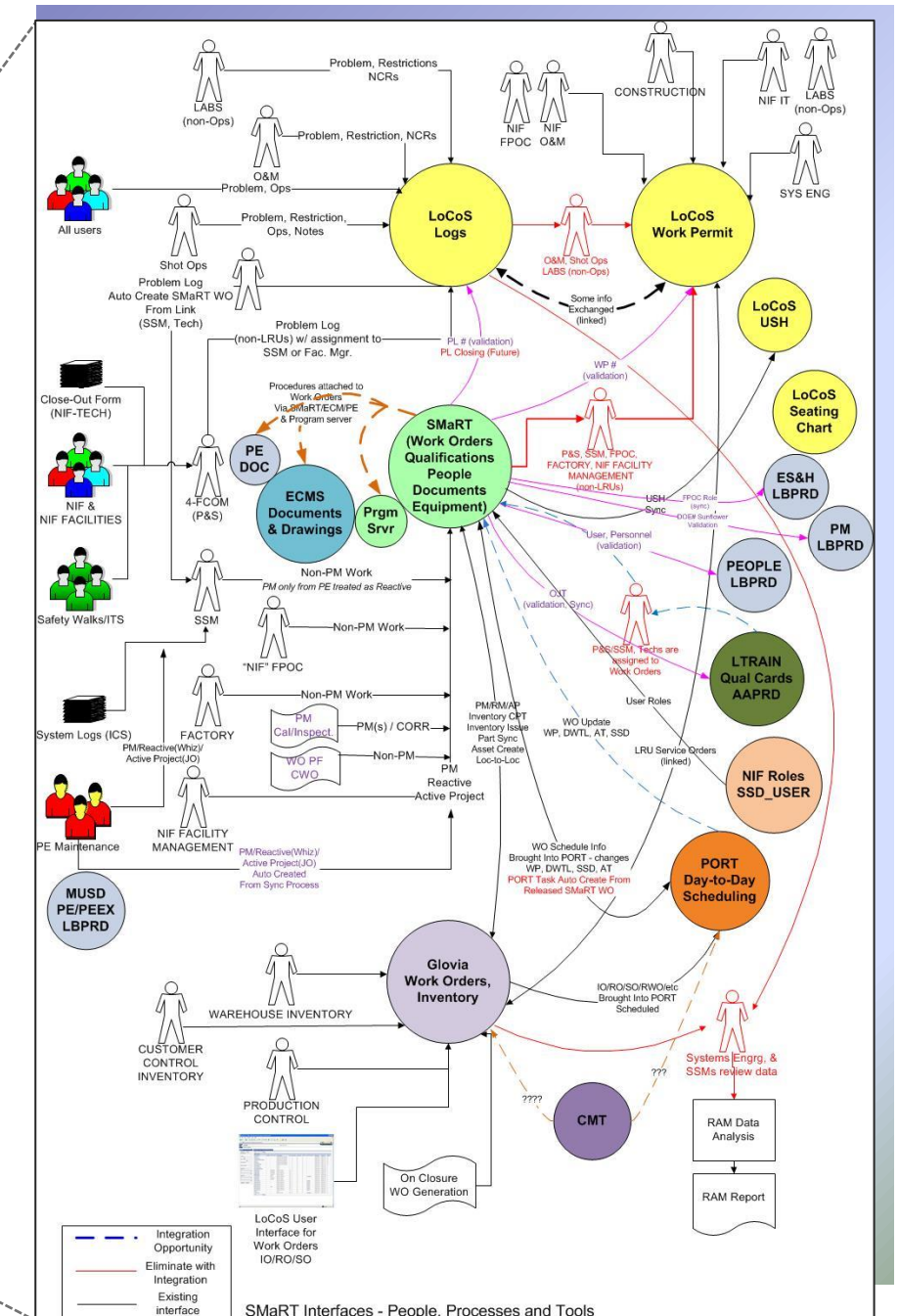
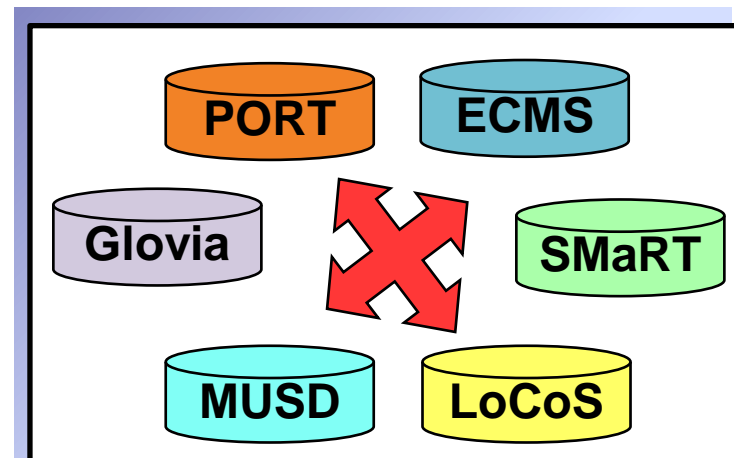
Overview: define your business processes





Overview: document your process flows

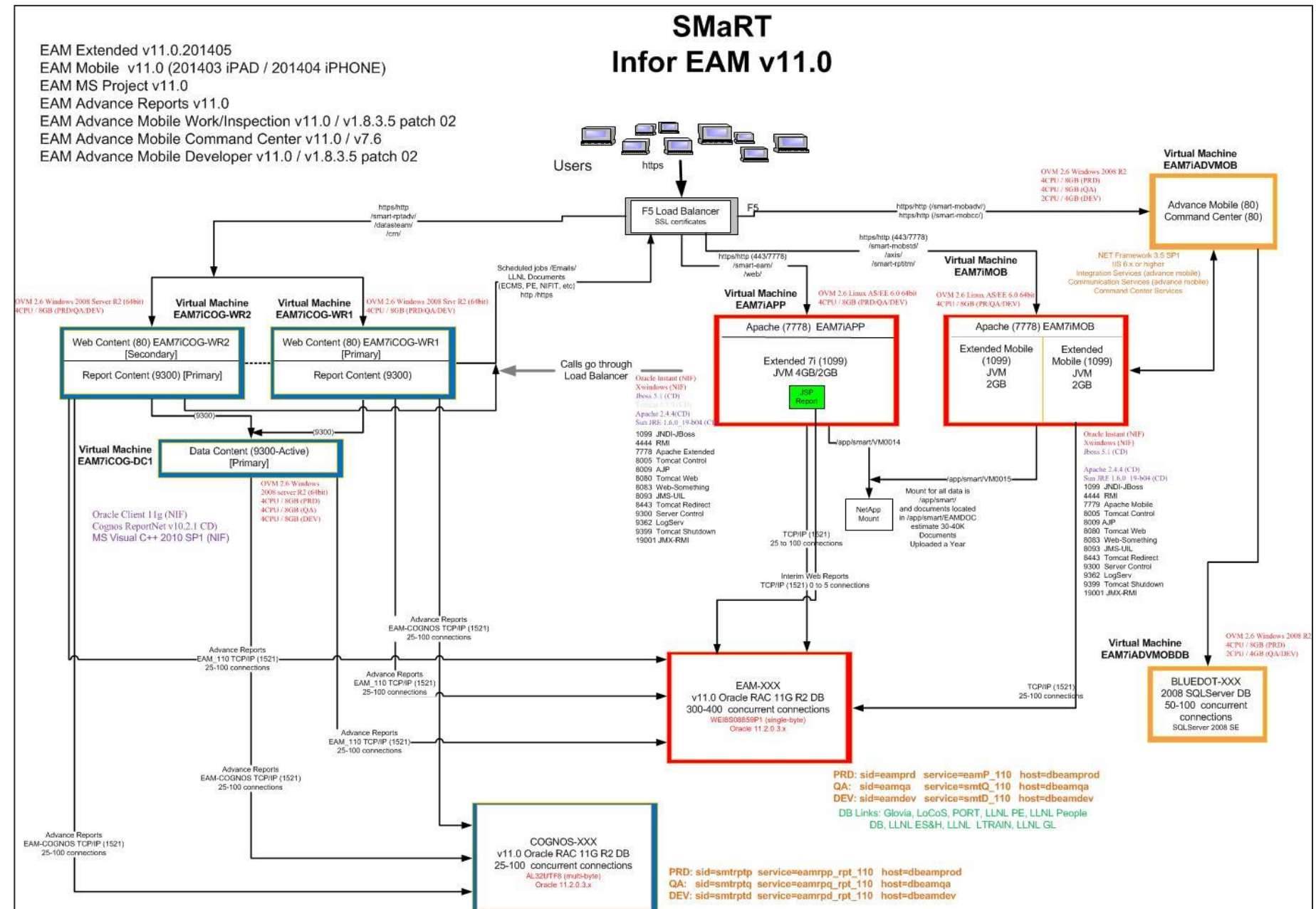
- Maintenance program should regularly review its understanding of how maintenance data flows between people and services, and update the processes required for mission and programmatic needs





Overview: NIF's EAM Architecture

- **EAM Extended VMs**
 - 1 EAM Extended
 - 1 EAM Web Services
 - 4 Oracle RAC Servers
- **Advance Reports VMs**
 - 2 Web/Report Content
 - 1 Primary Data Content
- **BlueDot VMs**
 - 1 Web/Application
 - 1 SQL*Server





Overview: upgrade summary

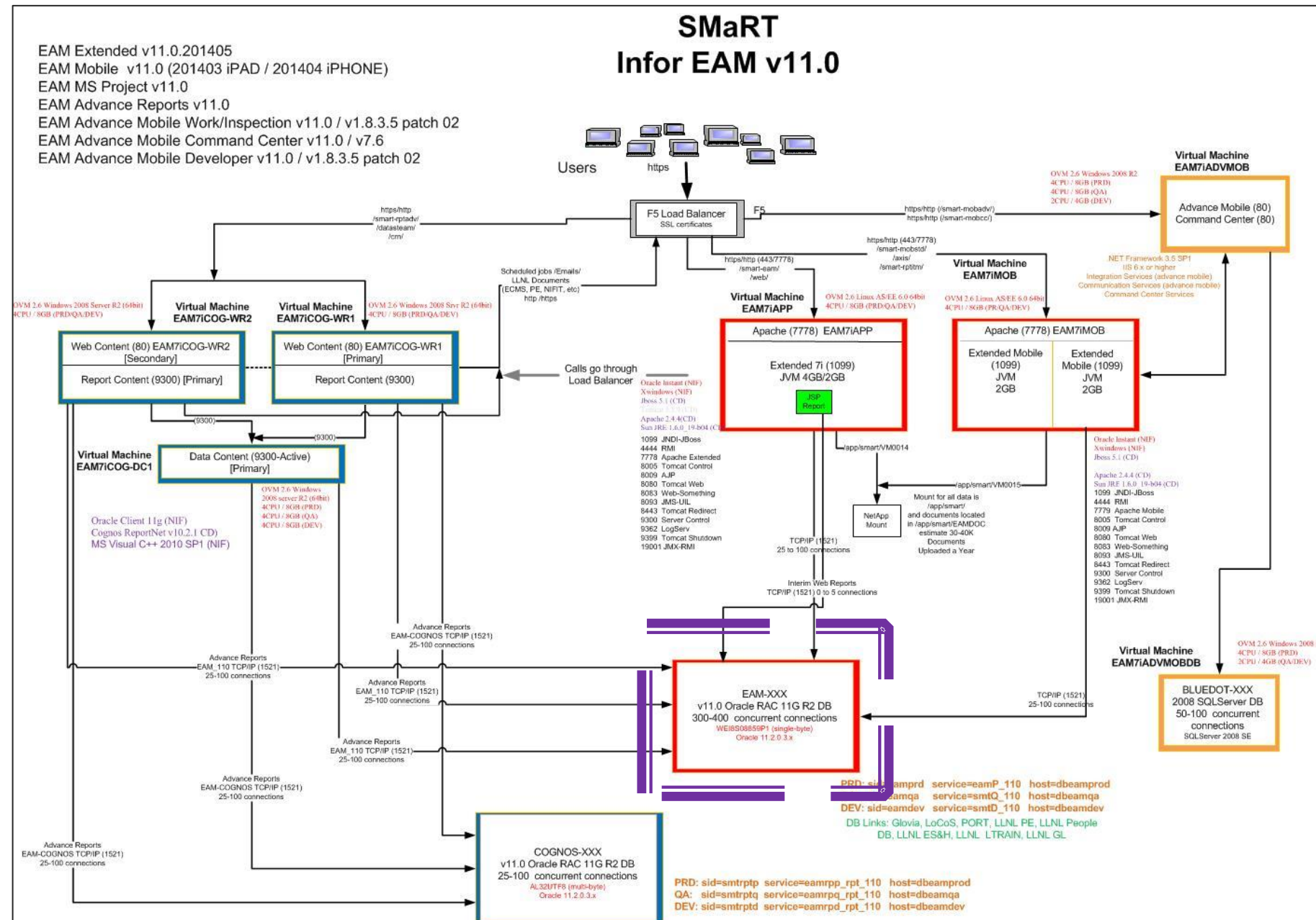
Perform Upgrade / Installation

- Build new DB instance / schema
- Build new VMs / Servers
- Export Production DB to new instance
 - Apply upgrade and patch scripts
- Install EAM Extended & Web Services
 - Make configuration changes, re-deploy
- Install Cognos components
 - Make configuration changes, re-deploy
- Test vanilla product

Apply / Turn-On Custom Changes

- Apply custom DB objects
 - Packages, triggers, views, etc.
- Turn on custom Flex statements
 - Either turn on all at once or one-by-one
- Turn on custom Alerts
 - Either turn on all at once or one-by-one
- Apply custom icon changes
 - Change application watermarks
- Tune services
 - Apache, JVM sizes, DB connections, etc.

EAM Database Prep-Work, Upgrade, Post-Work, Tips





EAM Database: migration/upgrade summary

- Prep-Work steps
- Build new DB instance / schema
- Export Production DB to new instance
 - Apply v11 upgrade and v11 patch scripts (same steps for previous versions)
- Post-Work steps
- Apply custom DB objects
 - Packages, triggers, views, etc.
- Turn on custom Flex statements
 - Either turn on all once or one-by-one
- Tune services
 - DB connections



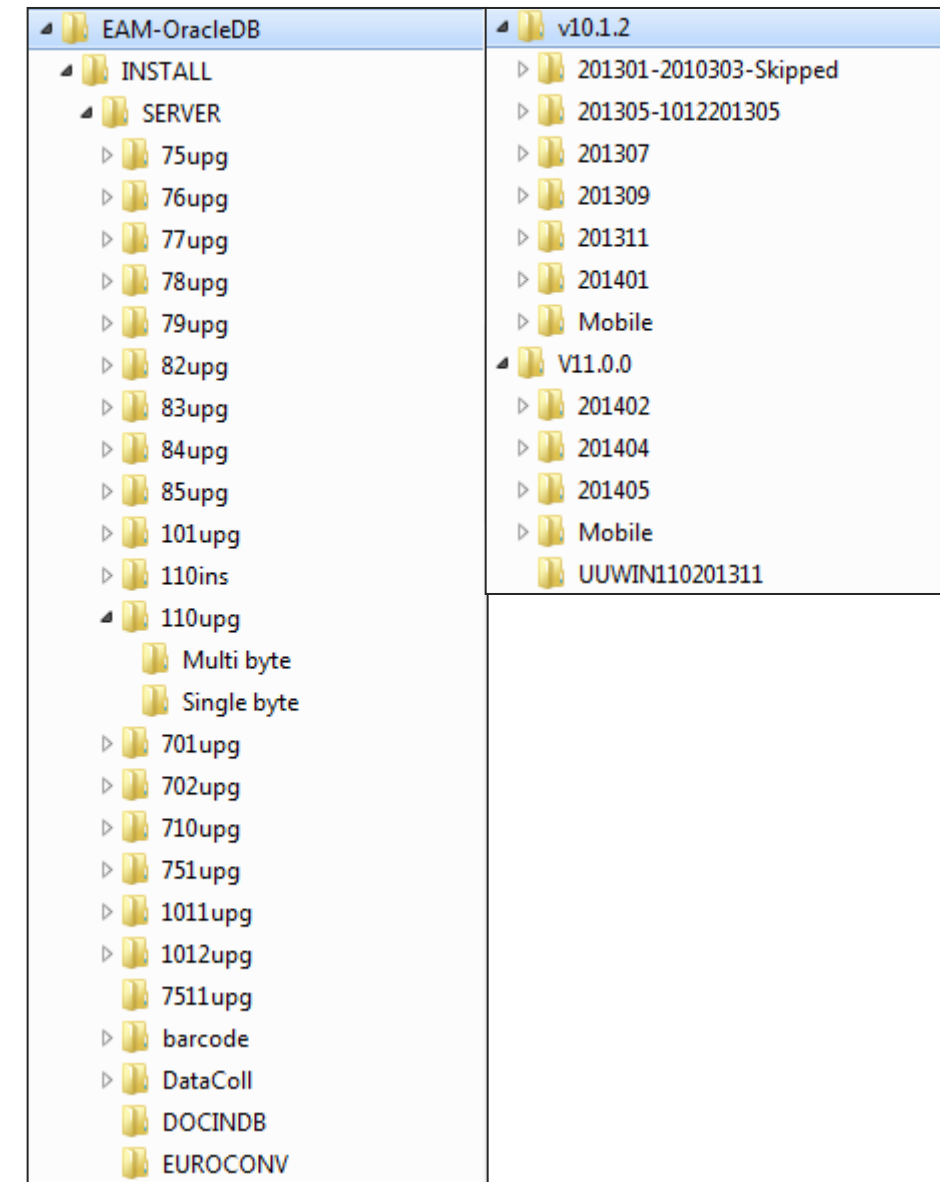
*Prep-Work: review before upgrading

- Before upgrading, verify if you have the following Infor default flex statements and if they are active or inactive – if you have your own custom Flex statements at these numbers, recommend renumbering yours in the current environments before upgrading
 - R5OBJECTS POST INSERT 22 replaced R5OBJECTS POST INSERT 20 (v85)
 - If you have an existing R5OBJECTS POST INSERT 22 flex statement that you have created, recommend re-numbering it before starting upgrade, if not, it will be replaced
 - R5OBJECTS POST UPDATE 25
 - R5REQUISITIONS POST INSERT 10
 - R5REQUISITIONS POST UPDATE 10
 - R5REQUISLINES POST INSERT 10
 - R5REQUISLINES POST UPDATE 10



Prep-Work: download CDs and patches

- Apply all patches for current production version into current environments before upgrading
 - Recommend running for a week or two
- Downloaded all quarterly and one-off patches from the Infor365 site for all versions upgrading from
- Create directories for scripts that come from the CD/image
EAM_DB_Oracle_v110_20131216.iso
 - downloaded them from the Infor365 site
 - New license keys needed for all licenses, request new keys from Infor365 site





*Prep-Work: tasks before migration

- Spool Flex statements and mark those currently inactive so you can deactivate them again after upgrade

```
set pagesize 0
```

```
set heading off
```

```
set feedback off
```

```
spool disable_flx_statements.sql
```

```
select 'update r5flexsql set flx_active="+" where flx_active="-";' "DAT" from dual
```

```
union
```

```
select 'update r5flexsql set flx_active="-" where flx_table="" || flx_table || "" and flx_trigger=""|| flx_trigger|| "" and  
flx_seq=' || flx_seq||';' "DAT" from r5flexsql a where a.flx_active = '-';
```

```
spool off
```

- Stop any database jobs and drop any custom triggers on Infor tables when you are ready to export / upgrade



DB Upgrade: perform DB scripts

- Perform v10.1.2 migration to v11.0 (follow example below for earlier versions, same series of scripts except for 90enx110u.sql)

```
echo *****
```

```
echo ***** Run 10.1.2 -> 11.0.0 Upgrade scripts order - about 30-45 Minutes to Perform
```

```
echo *****
```

```
echo Run 10.1.2 -> 11.0.0 Upgrade scripts change to directory location
```

```
cd ..\EAM-DB-Oracle-CD\INSTALL\SERVER\110upg\Single Byte"
```

```
echo ***** 1 min minute
```

```
sqlplus inforUser/XXpasswordXX@infor_eam_110
```

```
@7ICOMP.SQL
```

```
@00ck110u.sql
```

```
prompt ***** 2 minutes run - 3 minutes to recompile everything
```

```
@10tb110u.sql
```

```
@7ICOMP.SQL
```

```
exit;
```

```
echo ***** 2 min minutes
```

```
imp inforUser/XXpasswordXX@infor_eam_110 file=20ip110.dmp fromuser=D7idmp touser=inforUser log=20ip110.LOG ignore=y
```



DB Upgrade: perform DB upgrade (cont)

```
echo ***** 6 minutes run -- add 1 minute for log review  
sqlplus inforUser//XXpasswordXX@nfor_eam_110  
@28lc110u.sql
```

```
prompt ***** 2 minutes run  
@30dt110u.sql
```

```
prompt ***** 1 minutes run  
@50cs110u.sql
```

```
prompt ***** 4 minutes run -- 2 minutes to review log  
@60prc110.sql
```

```
prompt ***** 3 minutes run - 5 minute to review log  
@70trg110.sql
```

```
prompt ***** 3 minutes run  
@80ed110u.sql
```

```
prompt *****2 minutes run -- NEW SCRIPT STARTING AT V10.1.2 and V11.0  
@90enx110u.sql  
@7ICOMP.SQL  
@EAMcomp.sql
```



*DB Upgrade: verify Infor Flex statements

- After upgrading verify the following Infor Flex statements still exists
 - R5OBJECTS POST INSERT 22
 - R5OBJECTS POST UPDATE 25
 - R5REQUISITIONS POST INSERT 10
 - R5REQUISITIONS POST UPDATE 10
 - R5REQUISILINES POST INSERT 10
 - R5REQUISILINES POST UPDATE 10
 - Run query to verify
 - **SELECT** flx_table, flx_trigger, flx_seq, flx_comment **FROM** r5flexsql **WHERE** flx_table||'#'||flx_trigger||'#'||flx_seq **IN** ('R5OBJECTS#POST-INSERT#22','R5OBJECTS#POST-UPDATE#25','R5REQUISITIONS#POST-INSERT#10','R5REQUISITIONS#POST-UPDATE#10','R5REQUISILINES#POST-INSERT#10','R5REQUISILINES#POST-UPDATE#10');



*Post DB Upgrade: tips

- System will require all users to change password upon first login as encryption routine has changed
- Re-enable all Flex statements, or turn them on one-by-one in the application and test each business rule

```
echo ***** 1 min minute
```

```
sqlplus inforUser/XXpasswordXX@infor_eam_110
```

```
@disable_flx_statements.sql
```

- Re-create any custom triggers on product tables
- Turn back on any Alert jobs
- Re-create any DB jobs
- V10.1.x duplicate future work orders are located in R5FUTUREDUPLICATES all others are in R5FUTEVENTS



*Post DB Upgrade: tips KPIs

- Cleanup KPIs – examples, review and adjust to your needs

- Fix color and values after upgrade to ensure colors match

```
SELECT a.*, b.* FROM R5KPISCORES a, R5HOME b  
WHERE kps_icon IN ('badtach.gif','gauge-bad2.gif') AND A.KPS_HOMCODE = B.HOM_CODE;
```

```
UPDATE R5KPISCORES a SET kps_highvalue = 9999, kps_color= 'D5000E'  
WHERE kps_icon in ('badtach.gif','gauge-bad2.gif') AND a.kps_highvalue > 9999;
```

```
UPDATE R5KPISCORES SET kps_color= 'FFDC00'  
WHERE kps_icon IN ('oktach.gif','gauge-ok2.gif');
```

```
UPDATE R5KPISCORES SET kps_highvalue = 9999, kps_color= '2DB329'  
WHERE kps_icon IN ('gauge-good2.gif','goodtach.gif') AND kps_highvalue >= 9999;
```

- Fix Gauges, after upgrade the gauges and bars get a little wonky

```
SELECT b.*, a.* FROM R5KPISCORES a, R5HOME b  
WHERE A.KPS_HOMCODE = B.HOM_CODE;
```

```
UPDATE R5HOME b SET hom_min = 0 WHERE b.hom_min < 0;
```

```
UPDATE R5HOME b SET hom_max = 9999 WHERE b.hom_max > 9999;
```



**Post DB Upgrade: tips performance

- During the executing of patches and upgrade scripts, many Infor tables and indexes grew due to data updates and structure changes
 - After upgrade, “All Work Orders” Dataspy was taking 26 seconds, performed recommendation 2 and that dropped to 13 seconds (only change made)

Recommendation 1 (best)

- Perform a full export of current upgraded & patched database
- Drop schema user
- Recreate schema user
- Re-import full export into new schema user
- Tables and Indexes will be optimized without any other special DB tuning needed

Recommendation 2 (good)

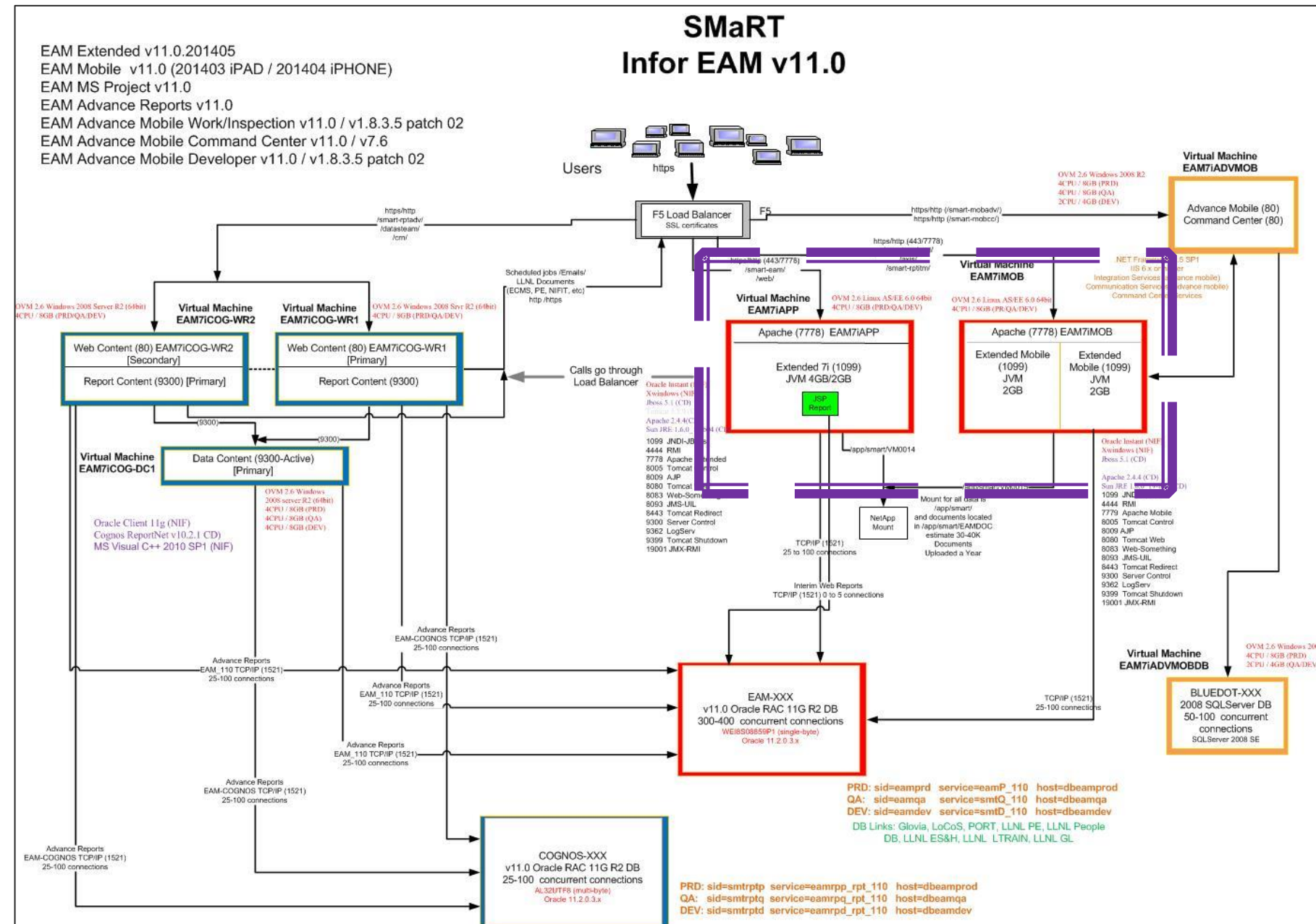
- Rebuild the following Tables and Indexes

R5ACTIVITIES	26.92%	R5EVENTS	13.64%
R5ACTSCHEDULES	33.33%	R5EVTSYSTEMS	50.00%
R5ADDETAILS	15.38%	R5EVTTESTPOINTS	7.14%
R5ALLTEXTS	4.35%	R5FUNCTIONS	12.50%
R5AUDVALUES	24.24%	R5GRID	25.00%
R5BOILERTEXTS	12.50%	R5GRIDFIELD	25.00%
R5BOOKEDHOURS	33.33%	R5INSTALL	50.00%
R5CUSTOMERREQUESTHISTORY	23.81%	R5MATLISTS	50.00%
R5DEFAULTPAGELAYOUT	16.67%	R5MOBILETABLEUPDATES	50.00%
R5DESCRIPTIONS	10.00%	R5OBJTESTPOINTS	11.11%
R5DETAILAUDIT	7.41%	R5ORGANIZATIONOPTIONS	50.00%
R5DOCENTITIES	14.29%	R5PAGELAYOUT	25.00%
R5EDITIONUCODES	14.29%	R5PARTS	11.11%
R5ELECMAAPPING	33.33%	R5PROPERTYVALUES	12.50%
R5ENTITIES	100.00%	R5TASKCHECKLISTS	200.00%
R5EVENTASPECTS	33.33%	R5TRIGTEMP	100.00%
R5EVENTOBJECTS	25.00%	R5UNAVAILABLEGRIDFIELDS	28.57%
R5EVENTPOINTS	75.00%		

EAM Extended & Web Services Installation, Configuration, Tips



EAM Architecture: Extended & Web Services





EAM Installation/Configuration: summary overview

- EAM Install, Configuration, Tips
 - Install from CD via xterm / x-windows
 - VM01 primary EAM, recommend only EAM, select NO when asked for messenger service
 - VM02 primary Web Services and backup EAM, select YES when asked for messenger service
 - If installing as same and mount, make sure to do the following on all other installs
 - rename vdp.properties that is at the userID home directory
 - clear out all eam files in the /tmp directory
 - Make changes in /app/eam/VM0x/inforEAM/depconfig/ewsconfig.xml
 - DB Schema, JVM min-size & max-size, and DB Connections & protocol (Oracle RAC)
 - Make changes in /app/eam/VM0x/inforEAM/depconfig/extended_properties.xml
 - Port from 80 to 7778, JVM settings, JVM_MIN 1 or 2, Report Server properties
 - Make Apache & JBoss changes – files can be copied across servers to save time
 - /app/eam/VM0x/inforEAM/depconfig/templates/apache/
 - /app/eam/VM0x/inforEAM/depconfig/templates/jboss/



EAM Configuration: extended_properties.xml

- Configure EAM to call Cognos via HTTPS
 - Report Changes

<advrep>

<servername>EAM7iCOG.yourCompany.com**</servername>**

<port>443**</port>**

<gatewaypath>/crn/cgi-bin/mod_cognos.dll**</gatewaypath>**

<protocol>https**</protocol>**

</advrep>



EAM Configuration: extended_properties.xml

- Port change recommended change 80 to 7778 or something else to prevent administration startup or other security issues.

```
<web>
  <http>
    <port>7778</port>
    <ssl>>false</ssl>
  </http>
  <https>
    <port>443</port>
  </https>
  <servername>EAM7iAPP</servername>
</web>
```



EAM Configuration: extended_properties.xml

- Leave JBoss running 1 JVM instances with 4 CPU / 8GB RAM – you can use 2 JVM instances set at 2048Gb min and 4096GB max with 6 CPU / 12GB RAM

```
<jboss base_name="jboss" home="${ews.gen_info.app.home}/jboss">
  <instances>1</instances>
  <jvm_min>2048</jvm_min>
  <jvm_max>4096</jvm_max>
  <port increment="100">
    <jndi>1099</jndi>
    <web>8083</web>
    <rmi>4444</rmi>
    <jms-uil2>8093</jms-uil2>
    <jmx-rmi>19001</jmx-rmi>
  </port>
</jboss>
```



EAM Configuration: ewconfig.xml

- Configure EAM data sources if using Oracle RAC
 - Purple RAC definition changes, note red is new driver used by EAM

```
<db-connection name="EAM-PRODUCTION">  
  <url>jdbc:oracle:thin:@(DESCRIPTION=(LOAD_BALANCE=on)  
    (ADDRESS=(PROTOCOL=TCP)(HOST=racProduction)(PORT=1521))  
    (CONNECT_DATA=(SERVICE_NAME=eamprd) (FAILOVER_MODE=(TYPE=select)  
      (METHOD=basic)(RETRIES=180)(DELAY=20))))  
  </url>  
  <driver>oracle.jdbc.xa.client.OracleXADataSource</driver>  
  <user>eamUserID</user>  
  <password>{ENCR}somePassword</password>  
  <min-size>25</min-size>  
  <max-size>100</max-size>  
  <idle-timeout-minutes>1</idle-timeout-minutes>  
</db-connection>
```



EAM Configuration: httpd.conf.tpl

- Apache httpd conf template changes located at /app/eam/VM0x/inforEAM/depconfig/templates/apache
 - Attachments directory location on server
 - **From:** Alias /attachments/ "@EXT_APPSERV_HOME_DATA@/attachments/"
 - **To:** Alias /attachments/ "/app/eam/EAMDOC/attachments/"
 - **From:** <Directory "@EXT_APPSERV_HOME_DATA@/attachments">
 - **To:** <Directory "/app/eam/EAMDOC/attachments">
 - Document uploads directory location on server
 - **From:** Alias /docuploads/ "@EXT_APPSERV_HOME_DATA@/docuploads/"
 - **To:** Alias /docuploads/ "/app/eam/EAMDOC/docuploads/"
 - **From:** <Directory "@EXT_APPSERV_HOME_DATA@/docuploads">
 - **To:** <Directory "/app/eam/EAMDOC/docuploads">



EAM Configuration: httpd.conf.tpl

- Configure export files directory location on server
 - **From:** Alias /exportconfig/ "@EXT_APPSERV_HOME_DATA@/exportconfigtemp/"
 - **To:** Alias /exportconfig/ "/app/eam/EAMDOC/exportconfigtemp/"
 - **From:** <Directory "@EXT_APPSERV_HOME_DATA@/exportconfigtemp">
 - **To:** <Directory "/app/eam/EAMDOC/exportconfigtemp">
- Configure import files directory location on server,
 - **From:** Alias /docuploads/ "@EXT_APPSERV_HOME_DATA@/docuploads/"
 - **To:** Alias /docuploads/ "/app/eam/EAMDOC/docuploads/"
 - **From:** <Directory "@EXT_APPSERV_HOME_DATA@/docuploads">
 - **To:** <Directory "/app/eam/EAMDOC/docuploads">



EAM Configuration: httpd.conf.tpl

- Recommend to rotate Apache error log file daily
 - **From:** ErrorLog "logs/error_log"
 - **To:** ErrorLog "| @EXT_APPSERV_HOME @/apache/bin/rotatelogsctl -l @EXT_APPSERV_HOME @/apache/logs/error_log 86400"
- Recommend to rotate Apache access log file daily
 - **From:** CustomLog "logs/access_log" common
 - **To:** CustomLog "| @EXT_APPSERV_HOME @/apache/bin/rotatelogsctl -l @EXT_APPSERV_HOME @/apache/logs/access_log 86400" common



EAM Configuration: MPConfiguration.xml.vm

- JBoss configuration template changes located at
/app/eam/VM0x/inforEAM/depconfig/templates/jboss

- Attachment directory configuration

<attach-definition>

<base-dir>/app/eam/EAMDOC/attachments</base-dir>

</attach-definition>

- Document upload directory configuration

<DocUpload>

<MaxFileSize>20</MaxFileSize> <!-- in MB -->

<UPLOADDIR>/app/eam/EAMDOC/docuploads</UPLOADDIR>

<AcceptableFileTypes></AcceptableFileTypes>

</DocUpload>



EAM Configuration: MPConfiguration.xml.vm

- Export directory configuration

<ExportConfig>

<ExportConfigDir>*/app/eam/EAMDOC/exportconfigtemp*</ExportConfigDir>

<Alias>*/exportconfig/*</Alias>

<DeleteInHours>*24*</DeleteInHours>

<ConfigManagerExpDir> */app/eam/EAMDOC/configmanagerexptemp*</ConfigManagerExpDir>

<ConfigManagerExpAlias> */configmanagerexp/* </ConfigManagerExpAlias>

</ExportConfig>

- If running URL redirects, make sure to change DISPATCHURL so it finds Cognos

<ReportServer tenant="\$ds.getName()">

<URL>@ADVREPTURL_*\$ds.getName()*@</URL>

<EXT></EXT>

<Gateway>@ADVREPTGATEWAY_*\$ds.getName()*@</Gateway>

<Base_URI>@ADVREPTBASEURI_*\$ds.getName()*@</Base_URI>

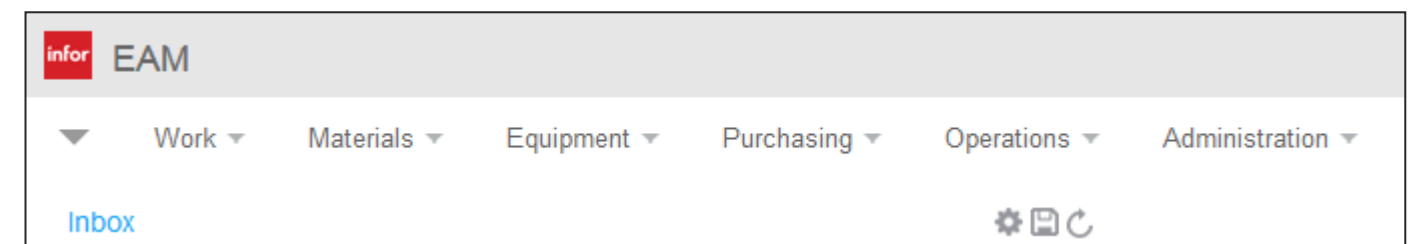
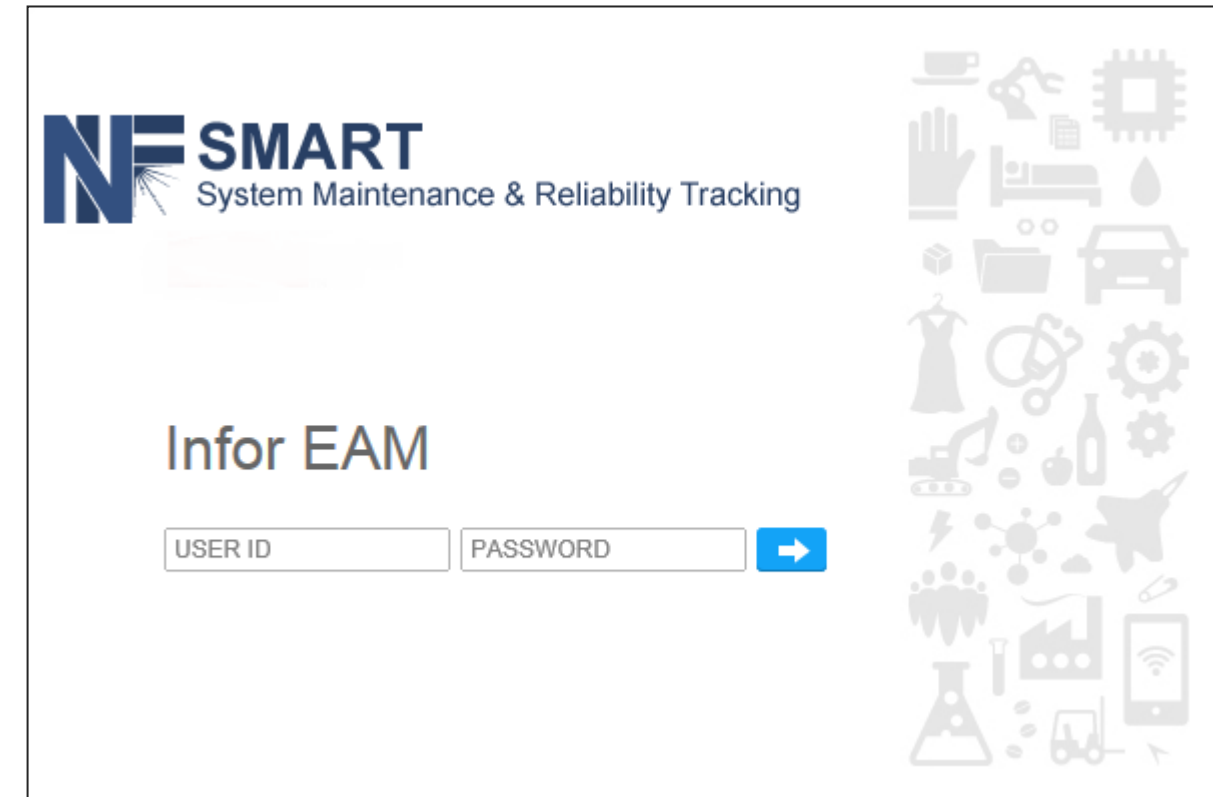
<DISPATCHURL>*https://EAM7iCOGSyourCompany.com/cognos-redirect-offset/*</DISPATCHURL>

</ReportServer>



*EAM Configuration: custom icon changes

- Make change to splash image by modifying **signin_bg2.png** located at
 - ../inforEAM/jboss/shared/deploy/web.war/resources/images/
- Make change to header icon image by modifying **inforLogo-ux3-24.png** located at
 - ../inforEAM/jboss/shared/deploy/web.war/resources/images/
- Make backups of images as they may get replaced with patches





EAM Performance Tuning: Apache

- Apache httpd conf template MPM Worker changes located at `/app/eam/VM0x/inforEAM/depconfig/templates/apache/httpd.conf.tpl`

<IfModule mpm_worker_module>

StartServers	8
MinSpareThreads	75
MaxSpareThreads	250
ThreadsPerChild	25
MaxRequestWorkers	400
MaxConnectionsPerChild	0

</IfModule>



EAM Performance Tuning: Apache

- Apache httpd conf template images caching changes

```
<IfModule mod_expires.c>
```

```
ExpiresActive on
```

```
ExpiresByType image/jpg "access 1 month"
```

```
ExpiresByType image/gif "access 1 month"
```

```
ExpiresByType image/bmp "access 1 month"
```

```
ExpiresByType image/png "access 1 month"
```

```
ExpiresByType application/x-shockwave-flash "access 1 month"
```

```
ExpiresByType text/html "access 1 month"
```

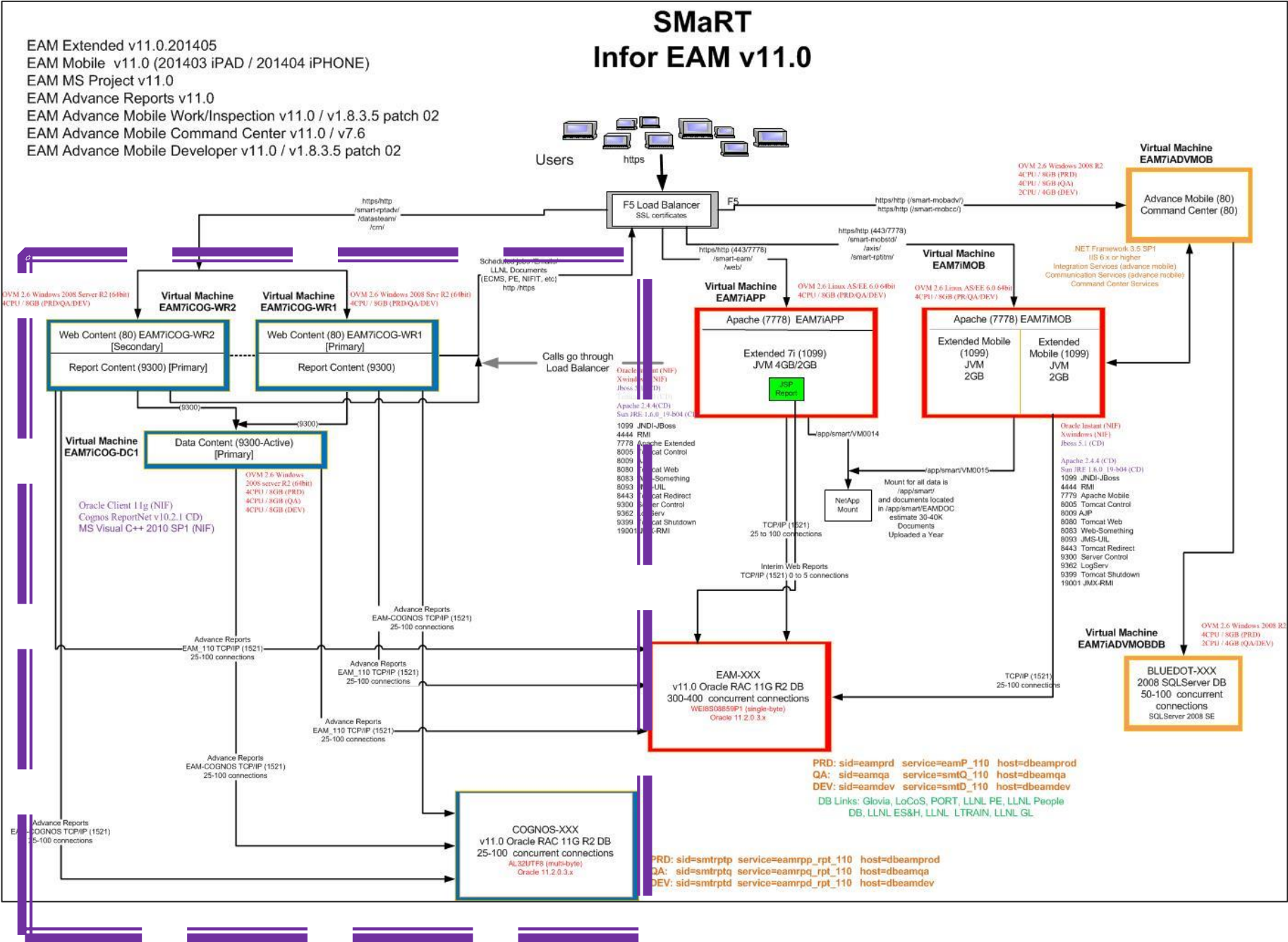
```
ExpiresDefault "access plus 1 month"
```

```
</IfModule>
```


EAM Cognos Installation, Configuration, Tips



Installation/Configuration: summary overview





*Cognos Installation: summary overview (distributed installation)

- Cognos Install, Configuration, Tips for Windows 64 bit or 32 bit
 - Install Oracle Client 11G 32bit version
 - Verify tnsnames.ora file by testing EAM and Cognos DB connections
 - Install MS Visual C++ 2010 SP1
 - Open command window verify JAVA_HOME and APP_HOME do not exist
 - For VMs, make sure to mount reports CD as a drive e.g. Z drive
 - Copy the following files to C:\WINDOWS\TEMP only if doing distributed installed
 - **ewconfig.xml** and **mkphrase.properties** from the EAM installation
 - Files are location at EAM server at /app/eam/VM0x/inforEAM/depconfig
 - **advrep_properties.xml** from CD & make changes using next slides for whichever report server configuration are using– in my example – three separate installs – if all web, report, and data content is going to be on 1 server, then just install from CD
 - From CD or a mounted shared drive (Z: drive) run file **AdvRepIns.bat**
 - Make time zone changes if needed, and then redeploy application



Cognos Installation Data Content: advprd_properties.xml

- Data Content primary service configuration, install first on VM1

```
<contentmanager>
  <enabled>true </enabled>
  <primary>true</primary>
  <contentmanagernames>EAM7iCOG-DC1.yourCompany.com:9300</contentmanagernames>
  <allow_consumer_access_to_report_folders>>false </allow_consumer_access_to_report_folders>
  <allow_consumer_login>true</allow_consumer_login>
</contentmanager>
<reportserver>
  <enabled>>false</enabled>
  <webservername>EAM7iCOG-WR1.yourCompany.com:80</webservername>
  <contentmanagernames>EAM7iCOG-DC1.yourCompany.com:9300</contentmanagernames>
</reportserver>
<webserver>
  <enabled>>false</enabled>
  <primaryreportservername>EAM7iCOG-WR1.yourCompany.com:9300 </primaryreportservername>
  <deployreportcontent>>false</deployreportcontent>
</webserver>
```



Cognos Installation Web & Report Content: advprd_properties.xml

- Web/Report Content primary service configuration, install second on VM2

<contentmanager>

<enabled>false</enabled>

<primary>false</primary>

<contentmanagernames>EAM7iCOG-DC1.yourCompany.com:9300</contentmanagernames>

<allow_consumer_access_to_report_folders>false</allow_consumer_access_to_report_folders>

<allow_consumer_login>true</allow_consumer_login>

</contentmanager>

<reportserver>

<enabled>true</enabled>

<webservername>EAM7iCOG-WR1.yourCompany.com:80</webservername>

<contentmanagernames>EAM7iCOG-DC1.yourCompany.com:9300</contentmanagernames>

</reportserver>

<webserver>

<enabled>true</enabled>

<primaryreportservername>EAM7iCOG-WR1.yourCompany.com:9300</primaryreportservername>

<deployreportcontent>true</deployreportcontent>

</webserver>



Cognos Installation Web & Report Content: advprd_properties.xml

- Web/Report Content secondary service configuration, install on VM3

<contentmanager>

<enabled>false</enabled>

<primary>false</primary>

<contentmanagernames>EAM7iCOG-DC1.yourCompnay.com:9300</contentmanagernames>

<allow_consumer_access_to_report_folders>false</allow_consumer_access_to_report_folders>

<allow_consumer_login>true</allow_consumer_login>

</contentmanager>

<reportserver>

<enabled>true</enabled>

<webservername>EAM7iCOG-WR2.yourCompnay.com:80</webservername>

<contentmanagernames>EAM7iCOG-DC1.yourCompnay.com:9300</contentmanagernames>

</reportserver>

<webserver>

<enabled>true</enabled>

<primaryreportservername>EAM7iCOG-WR2.yourCompnay.com:9300</primaryreportservername>

<deployreportcontent>false</deployreportcontent>

</webserver>



Cognos Post Installation: Tips

- After manual installation make sure to do the following
 - set **EST** to **PST** or whatever your time zone is in file C:\inforEAM\depconfig\templates\rmc\cogstartup.xml
 - `<crn:value xsi:type="cfg:timeZone">PST</crn:value>`
 - set environment variable REPSRV_HOME in command window
 - `set REPSRV_HOME=c:\inforEAMAdvRep`
 - change directory to C:\inforEAMAdvRep\depconfig and redeploy
 - `deploy.bat`

EAM Mobile & iPad/iPhone Installation, Configuration, Tips



EAM Mobile & iOS Setup: summary overview

- Database
 - Run database script Mobile 11 Build 20140430 (KB 1500684) – it will apply all patch versions for v11
- EAM
 - Configure Infor EAM User Group's permissions via the Interface tab
 - Configure Infor EAM Users to use mobile by checking the Mobile Checkbox and for Administrators (Super Users) Mobile Administrator to allow screen configuration (may need to select connector checkbox depending on your configuration)
- iPad / iPhone
 - Disable block pop-ups for Safari
 - Download application from App Store & setup configuration
 - First time login, set configuration sync file (not needed for iPhone)

Advance Mobile – the generic connector license key has been removed in v11
Talk to your Infor sales rep to get connector licenses, apply v11 AM scripts & sync



EAM Mobile & iOS Setup: user group mobile permissions

Function	Description	Query	Insert	Update	Delete	Function	Description	Query	Insert	Update	Delete
BCSYCF	Mobile Sync Config	YES	NO	YES	NO	PM30	Infor EAM Mobile UpdatePhysicalInventory	YES	YES	YES	YES
BCSYPF	Mobile Sync Profile	YES	NO	YES	NO	PM40	Infor EAM Mobile AddInspectionResult and Update	YES	YES	YES	YES
ICMONT	Mobile Ad Hoc Inspection	YES	YES	YES	YES	PM50	7i Mobile Enter Calibration Result	YES	YES	YES	YES
ICRSLT	Mobile Route Inspection	YES	YES	YES	YES	PM51	7i Mobile Add Calibration Standards	YES	YES	YES	YES
OCMETR	Mobile Replace Physical Meter	YES	NO	YES	NO	SCISSU	Mobile Issue Return Part	YES	YES	NO	YES
OCREAD	Mobile Meter Reading	YES	YES	NO	YES	SCPHYS	Mobile Physical Inventory	YES	NO	YES	NO
PM01	Infor EAM Mobile AddWO	YES	YES	YES	YES	WCACTJ	Mobile Work Order Activity	YES	YES	YES	YES
PM02	Infor EAM Mobile UpdateWO	YES	YES	YES	YES	WCBKEV	Mobile Book Labor	YES	YES	NO	YES
PM03	Infor EAM Mobile UpdateWOAttrib	YES	YES	YES	YES	WCCALI	Mobile Calibration	YES	NO	YES	NO
PM04	Infor EAM Mobile UpdateWOInstr	YES	YES	YES	YES	WCCOMM	Mobile Work Order Comment	YES	YES	YES	YES
PM10	Infor EAM Mobile AddWOActivity	YES	YES	YES	YES	WCCOMP	Mobile Close Work Order	YES	NO	YES	NO
PM11	Infor EAM Mobile UpdateWOActivity	YES	YES	YES	YES	WCJOBS	Mobile Work Order	YES	YES	YES	YES
PM12	Infor EAM Mobile AddWOActivityHours	YES	YES	YES	YES	WCMATL	Mobile Work Order Part	YES	YES	YES	YES
PM13	Infor EAM Mobile AddWOActivityPartsUsed	YES	YES	YES	YES	WCPROM	Mobile Work Order Custom Fields	YES	NO	YES	NO
PM20	Infor EAM Mobile AddMeterReading	YES	YES	YES	YES						

EAM Mobile & Checklist For Paperless Work Orders



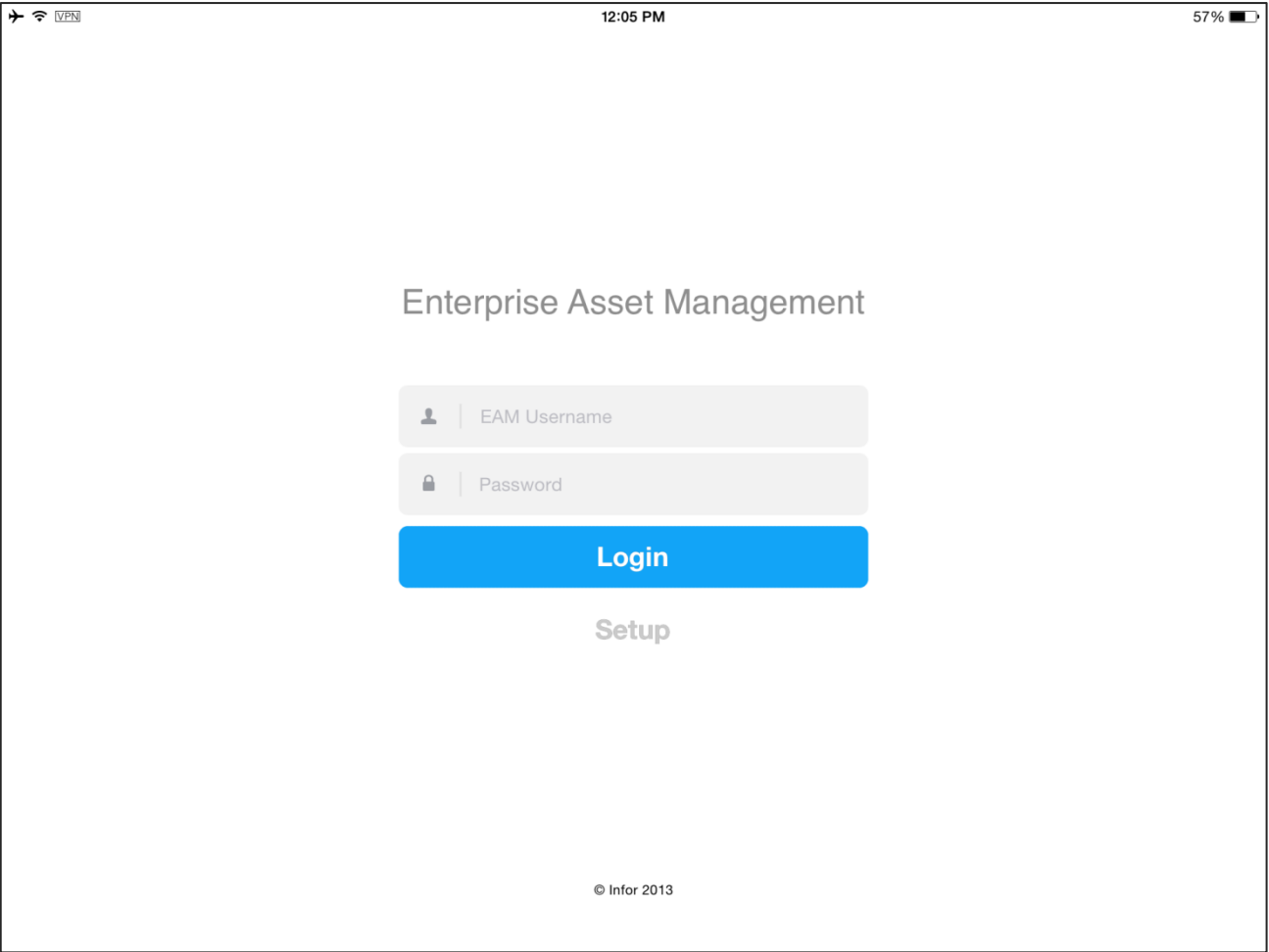
EAM Mobile & Checklist Setup: summary overview

- EAM Setup
 - Define a Checklist for a Task (template activity)
 - Use Checklist defined in your PM and Work Procedures, you may need to revise them
 - Step Types: Completed Checkbox, YES/NO Checkbox, Qualitative, Quantitative, Meter, & Inspections
 - No Uploader API, I defined my own using R5TRACKINGDATA and FLEX SQL to mass load
 - Map Task to PM & Standard Work Order Activities or Reference on Non-PM WOs
 - Review existing Routes as Checklist Steps can be define to WO Header or Route Equipment
- Mobile Applications
 - Connected (synchronous) mode works great with all define features
 - Note documents only display in Infor's app and not in native app, and can only upload images
 - Disconnected (asynchronous) mode works, but some features have issues
 - Checklist for Routes (MECs) will be available late 2014
 - Documents links come down, but don't auto load entire documents (feature on roadmap) – must click on document while connected to download to device

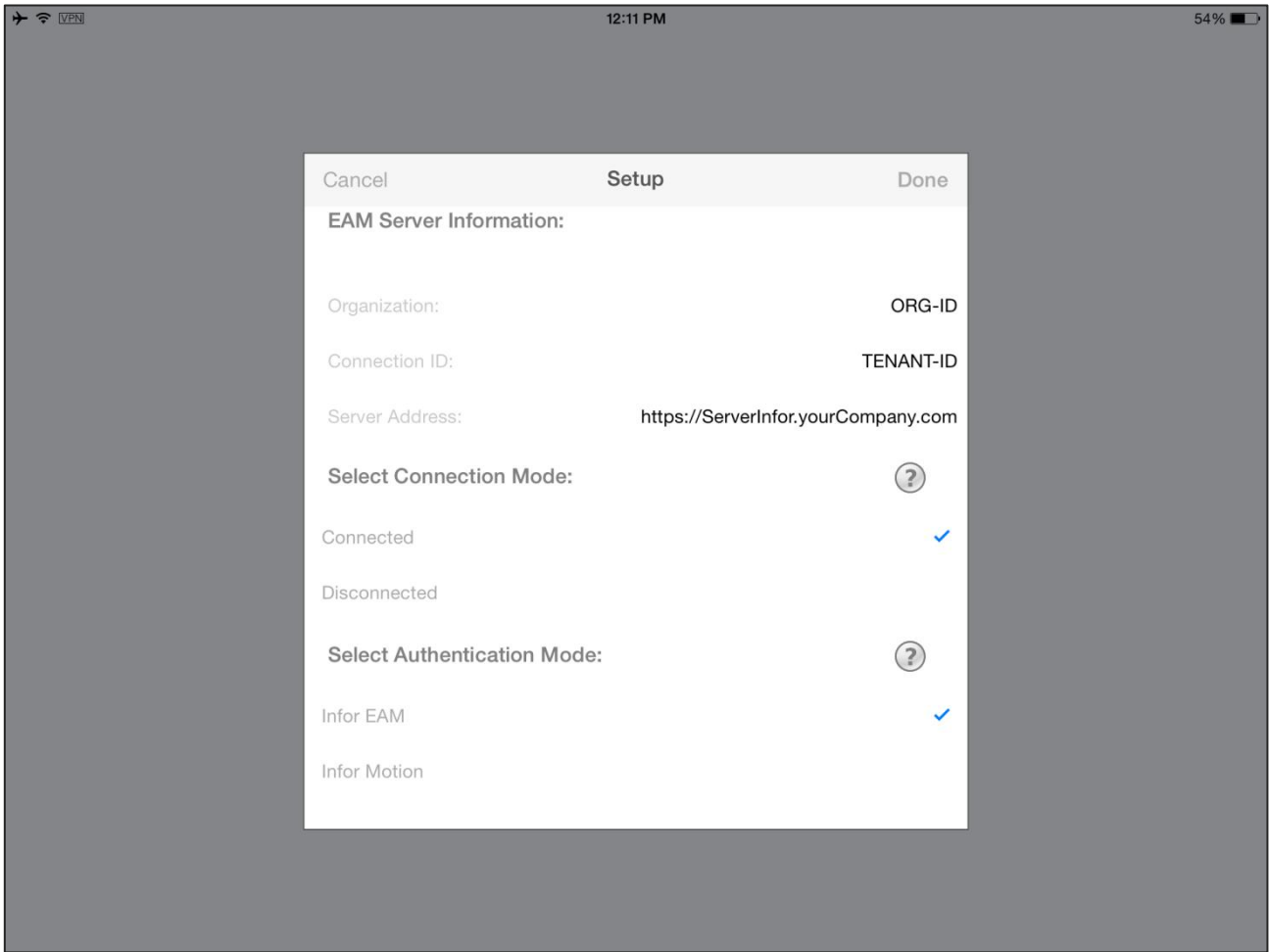


EAM Mobile: iPad Setup

Download App & Open



Configure Setup Connections





EAM Mobile: iPad sync configuration

For Connected Mode

Enterprise Asset Management

12:12 PM 53%

User/Groups

WHITE39
Kevin White

DEFAULT / ALL GROUPS

AMR-LEAD
AMR Lead Technician (Inactive)

DIR-ADMIN
NIF Directorate System Admin (Inac...

FMO-COORD
NIF O&M Materials Coordinator...

NIF-ADMIN
NIF Admin

NIF-IT
NIF Information Technology

NIF-TECH-ADM
NIF Organization Administrator (Ina...

NIF-TECH-LTD
NIF Tech Limited Role For Common...

NIF-TECH-MGR

Sync Configuration

☒ Download Work Orders

☐ For Department

⌂

For Disconnected Mode

Enterprise Asset Management

12:13 PM 53%

User/Groups

WHITE39
Kevin White

DEFAULT / ALL GROUPS

AMR-LEAD
AMR Lead Technician (Inactive)

DIR-ADMIN
NIF Directorate System Admin (Inac...

FMO-COORD
NIF O&M Materials Coordinator...

NIF-ADMIN
NIF Admin

NIF-IT
NIF Information Technology

NIF-TECH-ADM
NIF Organization Administrator (Ina...

NIF-TECH-LTD
NIF Tech Limited Role For Common...

NIF-TECH-MGR

Sync Configuration

☒ Download Work Orders

☐ For Department

☒ Download Inspection Results

☒ Download Equipment

☒ For Department NIF-OM-FOM

☐ For Location

☐ For Class

☐ For Catagory

☐ For Equipment

☐ For Type

☒ Download Equipment Comments

☒ For Downloaded WO only

☐ Download Equipment History

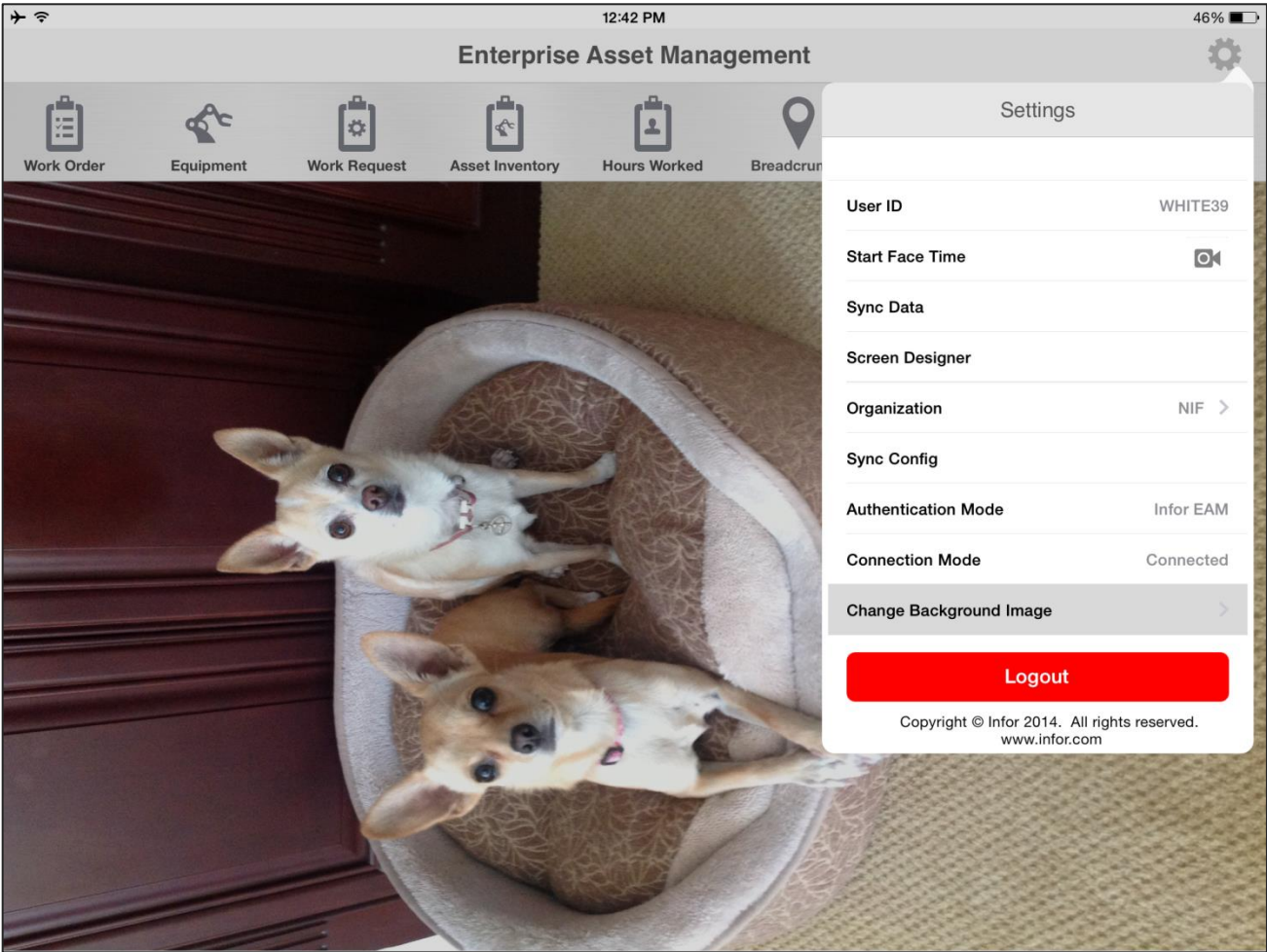
☐ For Downloaded WO only

⌂

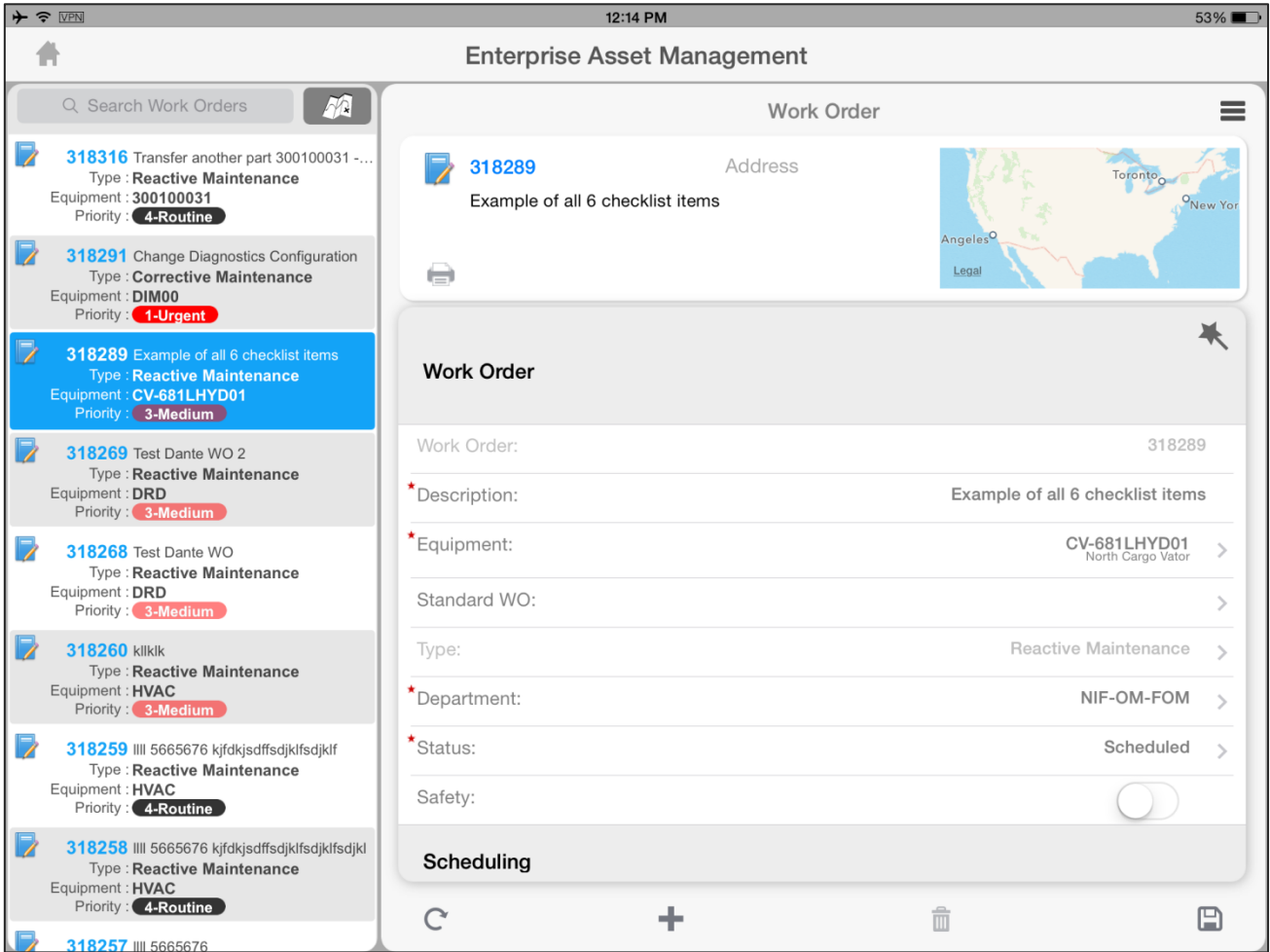


EAM Mobile: iPad sync configuration

Home / Background Change



Work Order - Header





EAM Mobile: iPad Work Order

Work Order - Checklist

Enterprise Asset Management

Search Work Orders

318316

Transfer another part 300100031 -...

Type : Reactive Maintenance

Equipment : 300100031

Priority : 4-Routine

318291

Change Diagnostics Configuration

Type : Corrective Maintenance

Equipment : DIM00

Priority : 1-Urgent

318289

Example of all 6 checklist items

Type : Reactive Maintenance

Equipment : CV-681LHYD01

Priority : 3-Medium

318269

Test Dante WO 2

Type : Reactive Maintenance

Equipment : DRD

Priority : 3-Medium

318268

Test Dante WO

Type : Reactive Maintenance

Equipment : DRD

Priority : 3-Medium

318260

klkik

Type : Reactive Maintenance

Equipment : HVAC

Priority : 3-Medium

318259

|||| 5665676 kjfdkjsdffdskjlfdsdjkif

Type : Reactive Maintenance

Equipment : HVAC

Priority : 4-Routine

318258

|||| 5665676 kjfdkjsdffdskjlfdsdjkifdsdjkif

Type : Reactive Maintenance

Equipment : HVAC

Priority : 4-Routine

318257

|||| 5665676

Type : Reactive Maintenance

Equipment : HVAC

Priority : 4-Routine

Checklist

Activity-Trade: 1

Test For All Checklist Items

Performed By:

Reviewed By:

Create Follow-up WO

Task Instructions

Equipment: CV-681LHYD01

Date Updated:

Completed:

Follow-up WO-Activity:

Occurrence:

Follow-up:

Final Occurrence:

Notes:

2 Was Equipment ON before performing test

Equipment: CV-681LHYD01

Date Updated:

Yes:

No:

Follow-up WO-Activity:

Occurrence:

Follow-up:

Final Occurrence:

Notes:

3 What color is the oil

Equipment: CV-681LHYD01

Date Updated:

Result:

Follow-up WO-Activity:

Occurrence:

Follow-up:

Final Occurrence:

+

Work Order - Menu

Enterprise Asset Management

Search Work Orders

318316

Transfer another part 300100031 -...

Type : Reactive Maintenance

Equipment : 300100031

Priority : 4-Routine

318291

Change Diagnostics Configuration

Type : Corrective Maintenance

Equipment : DIM00

Priority : 1-Urgent

318289

Example of all 6 checklist items

Type : Reactive Maintenance

Equipment : CV-681LHYD01

Priority : 3-Medium

318269

Test Dante WO 2

Type : Reactive Maintenance

Equipment : DRD

Priority : 3-Medium

318268

Test Dante WO

Type : Reactive Maintenance

Equipment : DRD

Priority : 3-Medium

318260

klkik

Type : Reactive Maintenance

Equipment : HVAC

Priority : 3-Medium

318259

|||| 5665676 kjfdkjsdffdskjlfdsdjkif

Type : Reactive Maintenance

Equipment : HVAC

Priority : 4-Routine

318258

|||| 5665676 kjfdkjsdffdskjlfdsdjkifdsdjkif

Type : Reactive Maintenance

Equipment : HVAC

Priority : 4-Routine

318257

|||| 5665676

Type : Reactive Maintenance

Equipment : HVAC

Priority : 4-Routine

Checklist

Activity-Trade: 1

Test For All Checklist Items

Performed By:

Reviewed By:

Create Follow-up WO

Task Instructions

Equipment: CV-681LHYD01

Date Updated:

Completed:

Follow-up WO-Activity:

Occurrence:

Follow-up:

Final Occurrence:

Notes:

2 Was Equipment ON before performing test

Equipment: CV-681LHYD01

Date Updated:

Yes:

No:

Follow-up WO-Activity:

Occurrence:

Follow-up:

Final Occurrence:

Notes:

3 What color is the oil

Equipment: CV-681LHYD01

Date Updated:

Result:

Follow-up WO-Activity:

Occurrence:

Follow-up:

Final Occurrence:

+

Work Order

Activities

Comments

Book Labor

Parts

Inspections

Issue/Return

Additional Costs

Documents

Proof of Delivery

Close Work Order

Checklist



Q



A

Bonus Slides

Infor EAM v11 Screens GUI Overview



Infor EAM V11: list view screens

About
Logout
My Account
Help

Main Menu is now the left

Entity Information

Expand Left Split Screen Expand Right

Toolbar

Now In Browser Window
Do not use tab for other things

Run Button Single Filter

Logon Information Is now on the right

Last Visted Tab

Work Order 318253 Test v11 201404 patch nif specifics

Work Order	Safety/CI	Work Permit #	WO Type	Description	WO Status	PM Code	Equipment #	Department	Organization	Assign-By	Assign-To	Criticality	Problem Log #	Plant Engineering WO/JO	Scheduled Start Date	Scheduled End Date
318253			Other Non-Maintenance	Test v11 201404 patch nif specifics	Pending		B490	NIF-DIR	NIF-DIR	MACCHIONI1	MACCHIONI1	4			05/12/2014	05/13/2014
318252			Corrective Maintenance	Test	Pending		HVAC	NIF-OM-FOM	NIF	ANDERSON...	COHEN20	2			05/12/2014	05/12/2014
263344		600815	Structured Maintenance	Compressor semi annual maintenance (4380 hours)	Pending	CDA-CMP-CD-004	CDA-CMP01	NIF-OM-FOM	NIF	HIPPLE1	COHEN20	4			05/09/2014	05/29/2014
238019		613426	Structured Maintenance	CDA Compressor Quarterly Maintenance (2160 hours)	Pending	CDA-CMP-CD-003	CDA-CMP01	NIF-OM-FOM	NIF	HIPPLE1	COHEN20	4			05/09/2014	05/22/2014
318251			Corrective Maintenance	kkkk	Pending		NIF	NIF-MO	NIF	SCHUDER1	SCHUDER1	4			05/09/2014	05/12/2014
318250			Corrective Maintenance	Install motor in AMP Fan Units	Pending		AMP	NIF-OM-FOM	NIF	HIPPLE1	COHEN20	4			05/05/2014	05/05/2014
318249			Reactive Maintenance	go do something	Pending		BLD	NIF-OM-FOM	NIF	SWANSON20	COHEN20	9			05/05/2014	05/05/2014
318247			Reactive Maintenance	Fix fence	Work Request		B581	NIF-OM-FOM	NIF		MASLENNIKOV1	12			05/02/2014	05/02/2014
318246			Reactive Maintenance	TCV - Replace RP-01B GV500 pump	Pending		TCV-RP01B	NIF-OM-FOM	NIF	RIDDLE4	COHEN20	2			05/07/2014	05/09/2014
318245			Reactive Maintenance	testg 3	Pending		300100256	NIF-OM-FOM	NIF	RIDDLE4	COHEN20	4			05/01/2014	05/01/2014
318244			Reactive Maintenance	testg	Pending		300100256	NIF-OM-FOM	NIF	RIDDLE4	COHEN20	4			05/01/2014	05/01/2014
318243			Corrective Maintenance	test	Pending		300100256	NIF-OM-FOM	NIF	RIDDLE4	COHEN20	4			05/05/2014	05/05/2014
318242			Corrective Maintenance	Change filament	Pending		PABVAC-PT512A	NIF-OM-FOM	NIF	RIDDLE4	COHEN20	4			04/30/2014	04/30/2014
318241			Reactive Maintenance	Johnn	Pending		NIF	NIF-MO	NIF	SCHUDER1	SCHUDER1	4			04/30/2014	04/30/2014
318240			Reactive Maintenance	Perform maintenance	Work Request		TCV-RP01B	NIF-OM-FOM	NIF		COHEN20	2			04/30/2014	04/30/2014
318234			Structured Maintenance	PEV Quarterly Maintenance All Clusters	Pending	PEV-Q-001	PEV	NIF-OM-FOM	NIF	RIDDLE4	COHEN20	4			04/17/2014	04/30/2014
318088			Reactive Maintenance	DIAP - RP04 - Refill booster oil level (shaft seal)	Scheduled		300100360	NIF-OM-FOM	NIF	RIDDLE4	COHEN20	2			04/28/2014	04/28/2014

Records: 50 of 100+ **Record Count**

Filter & Dataspy Layout



Infor EAM V11: record view screens

List View

Ribbon

Expand Left Is Now Set
List View is a Ribbon

Tab Functions

Red Star Icon
Required Field

List of More
Tab Function
Not display by default

Collapse Section

Blue Circle Icon
Hyperlinks Available

Work Order: 263344 Compressor semi annual maintenance (4380 hours)

Equipment #: CDA-CMP01 CDA Compressor No. 1

Location: B582 Utility Building

WO Type: Structured Maintenance

Department: NIF-OM-FOM

Equipment Type: P

Equipment Org: NIF

Parent Position:

Equipment Alias:

Manuf Serial #: 14289

Manuf Model #: TA2000

WO Status: Pending

Safety/C: ☐

Warranty: ☐

Dependent: ☐

Survey: ☐

Print: ☒

Reopened: ☐

Buckled: ☒

Organization: NIF

Created By: HIPPLE1

Date Created: 03/06/2013

Multiple Equipment: ☐

Printed: ☐

Work Order Details

WO Class: PM

Priority: 3-Medium

Standard WO:

Route:

Parent Work Order:

PM Code: CDA-CMP-CD-004

Actual PM Due Date: 05/29/2014

Criticality: 4

Inspection Status: Unfinished

Work Package:

Maintenance Pattern:

Sequence:

Scheduling Session:

Scheduling Session Type:

Last Meter Reading: HUR

Failure Code:

Action Code:

Action Install/Remove:

Asset:

MTBF: ☐

Functional Availability Impacted (RAM):

Could this problem be averted with a PM task?:

Unplanned Downtime:

Hours:

Planned Unavailability:

Repair Duration Hours:

Downtime Cost:

Work Approval

Reported By: R5

Date Reported: 05/09/2014 00:00

Assign To: HIPPLE1

Assign To: COHEN20

Scheduled Start Date: 05/09/2014

Scheduled End Date: 05/29/2014

Start Date:

Date Completed:

Shift:

Project:

NIF Specifics

WO Deferred:

Retest:

Review For Closeout:

Location Desc:

Dept/Main Planner: JIZE1



Infor EAM V11: record view screens – split view

Split View Is Now Set

Last One Selected **List View on left – Tab Selection on Right** **Tab Functions** **More Tab Functions** **Scroll Right**

Work Order: 263344 Compressor semi annual maintenance (4380 hours)

Search within All Work Orders

318255 - change heater element
Organization: NIF
WO Status: Pending
Equipment #: HVAC-ACUPH22-H...

318252 - Test
Organization: NIF
WO Status: Pending
Equipment #: HVAC

263344 - Compressor semi annual maintenance (...)
Organization: NIF
WO Status: Pending
Equipment #: CDA-CMP01

238019 - CDA Compressor Quarterly Maintenanc...
Organization: NIF
WO Status: Pending
Equipment #: CDA-CMP01

318251 - kkkk
Organization: NIF
WO Status: Pending
Equipment #: NIF

318250 - Install motor in AMP Fan Units
Organization: NIF
WO Status: Pending
Equipment #: AMP

318249 - go do something
Organization: NIF
WO Status: Pending
Equipment #: BLD

318247 - Fix fence
Organization: NIF
WO Status: Work Request
Equipment #: B551

318246 - TCV - Replace RP-01B GV600 pump
Organization: NIF
WO Status: Pending
Equipment #: TCV-RP01R

Work Order: 263344
Equipment #: CDA-CMP01
Location: B552
WO Type: Structured Maintenance

Equipment Type: P
Equipment Org: NIF
Parent Position:
Equipment Alias:
Manuf Serial #: 14289
Manuf Model #: TA2000

WO Class: PM
Priority: 3-Medium
Standard WO:
Route:
Parent Work Order:
PM Code: CDA-CMP-CD-004
Actual PM Due Date: 05/29/2014
Criticality: 4
Inspection Status: Unfinished
Work Package:
Maintenance Pattern -
Sequence:
Scheduling Session:
Scheduling Session Type:
Last Meter Reading: HUR

Failure Code:
Action Code:
Action Install/Remove:
Asset:
MTBF:
Functional Availability:
Impacted (RAM):
Could this problem be averted with a PM task?:
Unplanned Downtime:
Hours:
Planned Unavailability:
Repair Duration Hours:
Downtime Cost: USD

Organization: NIF
Created By: HIPPLE1
Date Created: 03/06/2014
Multiple Equipment:
Printed:

Reported By: R5
Date Reported: 05/09/2014 00:00
Assign-By: HIPPLE1
Assign-To: COHEN20
Scheduled Start Date: 05/09/2014
Scheduled End Date: 05/29/2014
Start Date:
Date Completed:
Shift:
Project:

NIF Specifics
WO Deferred:
Retest:
Review For Closeout:
Location Desc:
Dept/Main Planner: JZE1

Scrollbar Left-Side Top to Bottom

List View Now On Left

Drag Left Split-View To Left to Expand

Scrollbar Right-Side Top to Bottom

List of More Tab Function Not display by default

0



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